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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,943	06/29/2007	Rob Short	P-7735	6981

32752 7590 09/08/2010

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EXAMINER	
YAKOVLEVA, GALINA M	
ART UNIT	PAPER NUMBER
1641	

MAIL DATE	DELIVERY MODE
09/08/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,943	SHORT ET AL.	
	Examiner	Art Unit	
	GALINA YAKOVLEVA	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-16 and 26-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 26-31* is/are rejected.

7)☒ Claim(s) *26, 28-31* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The examiner charged with the present case has changed. See contact information below. Responsive to communications entered 06/29/2010. As of 06/29/2010, Claims 1-16 and 26-31 are pending. Claims 1-16 and 26-31 are examined.

Priority

The instant application, 10/599,943, is the 35 U.S.C 371 filing of PCT/GB05/01369, filed on 04/07/2005, which claims foreign priority to United Kingdom patent application 0408351.5, filed on 04/15/2004.

Withdrawn Rejections and Response to Arguments

The rejection of Claims 17-25 under 35 U.S.C. 103(a) as being unpatentable over Short *et al*., WO 2004/040308 A1, published May 13, 2004, is withdrawn in view of applicant's cancellation of the claims.

As to Claims 1-16 and 26-31, Applicant's arguments with regard to Short *et al*. reference have been fully considered, but they are not persuasive. Applicant traversed Short *et al.* for not teaching an agent having a salt concentration of about 100 mM NaCl to about 2 M NaCl, wherein said agent provides for selective disassociation of said entity from said plasma polymerized surface. As set forth below, Short *et al.,* as evidenced by Dako General ELISA Procedure, February 2002, anticipates all of the recitations of present Claims 1-16 and 26-31.

Information Disclosure Statement

The objection to the information disclosure statement, filed 1/30/2008, as not complying with 37 CFR 1.98 (b)(5) is withdrawn, and the IDS has been fully considered.

Claim Objections

Claim 26 is objected to because of lack of an antecedent basis for "said glycosaminoglycan."

Claim 26 is objected to as improperly dependent on Claim 6, which requires the carbohydrate to be a sulphated biomolecule. Claim 26 recites hyaluronan, which is a nonsulfated glycosaminoglycan.

Claim 26 is objected to because of improper Markush language. The claim recites "or" instead of "and" between the last two Markush members.

Claims 28-31 are objected to because of improper antecedent basis in "a salt concentration" recitation. An article "the" shall be used instead of "a."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 8-16, and 27-31 are rejected under 35 U.S.C. 102(b) as being anticipated by **Short & Whittle**, WO 01/031339, published on May 3, 2001 (IDS entered 01/30/2008) as evidenced by **WO 98/19161,** to which Short & Whittle refer to at page 3, lines 12-15, and **Sigma** Catalog, 2000-2001, page 337.

The claims, as recited in the sole independent Claim 1, are drawn to a method for the selective disassociation of at least one biological entity from a plasma polymerized surface of an organic monomer including an allylamine, said method comprising contacting said surface with at least one agent having a salt concentration of about 100 mM NaCl to about 2 M NaCl, wherein said agent provides for selective disassociation of said entity from said plasma polymerized surface. Claims 28-31 recite the variable ranges within the claimed range of the salt concentration of Claim 1. Claims 2-7 and 26 require the biological entity to be a carbohydrate. Claim 8 requires the biological entity to be a polypeptide. Claims 9-10 and 27 require the biological entity to be a nucleic acid molecule. Claims 12 and 13 require the surface to comprise a plasma polymer of a volatile acid. Claim 14 requires the surface to comprise a plasma polymer of a volatile alcohol. Claim 15 requires the surface to comprise a plasma polymer of a volatile amine. Claim 16 requires the surface to comprise a mixture of volatile acid and volatile hydrocarbon.

Short & Whittle, throughout the publication, and, for example, at page 5, line 1; page 8, lines 1-4; page 7, lines 10-14 and 16-17; Claims 8, 11, 13-15, 25; teach how to make and use a plasma polymerized surface of an organic monomer, including an allylamine, for detection of polypeptides, nucleic acids, including DNA and RNA, and

cells. Short & Whittle, at page 4, line 21 through page 5, line 6; Claims 16-24; teach the surface comprising volatile acid, volatile amine, volatile alcohol, and volatile hydrocarbon, and the surface comprising a mixture of one or more compounds having functional groups with a hydrocarbon.

As to recitation "a salt concentration of about 100 mM NaCl to about 2 M NaCl," at page 12, Short & Whittle teach an enzyme linked immunosorbent assay (ELISA) for estimating the binding of human immunoglobulin G (IgG) onto the different plasma copolymer surfaces. Short & Whittle teach washing the surfaces with PBS-Tween (page 12, lines 14-15). According to MPEP 2131.01, extra references can be used to show the meaning of a term used in the primary reference. **WO 98/19161**, to which Short & Whittle refer to at page 3, lines 12-15, indicates that 0.15 M and 0.5 M NaCl concentrations are used in the standard coating and washing buffers for ELISA methods. See, for example, page 19, line 32; page 22, line 6. In addition, **Sigma** Catalog, 2000-2001, page 337 indicates that 0.137 M - 0.138 M NaCl concentrations are used in the standard PBS buffer for immunoassays. A specific example in the prior art which is within a claimed range anticipates the range. MPEP 2131.01.

"[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if *one* of them is in the prior art." Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing In re Petering, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)) (emphasis in original).

Therefore, each and every element of the claims are met by the Short & Whittle reference.

Claims 1-16 and 26-31 are rejected under 35 U.S.C. 102(e) as being anticipated by **Short** *et al.*, WO 2004/040308 A1, filed October 29, 2003, published May 13, 2004 (IDS entered 01/30/2008), as evidenced by **Dako** General ELISA Procedure, February 2002.

The applied reference has a common inventor(s) with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The claims, as recited in the sole independent Claim 1, are drawn to a method for the selective disassociation of at least one biological entity from a plasma polymerized surface of an organic monomer including an allylamine, said method comprising contacting said surface with at least one agent having a salt concentration of about 100 mM NaCl to about 2 M NaCl, wherein said agent provides for selective disassociation of said entity from said plasma polymerized surface. Claims 28-31 recite the variable ranges within the claimed range of the salt concentration of Claim 1. Claims 2-7 and 26 require the biological entity to be a carbohydrate. Claim 8 requires the biological entity to be a polypeptide. Claims 9-10 and 27 require the biological entity to be a nucleic acid molecule. Claims 12 and 13 require the surface to comprise a plasma polymer of a volatile acid. Claim 14 requires the surface to comprise a plasma polymer of a volatile alcohol. Claim 15 requires the surface to comprise a plasma

polymer of a volatile amine. Claim 16 requires the surface to comprise a mixture of volatile acid and volatile hydrocarbon.

Short *et al*., throughout the publication, and, for example, at pages 6, 8, and 13, teach how to make and use a plasma polymerized surface of an organic monomer, including an allylamine, for immobilization of carbohydrates, polypeptides, genomic DNA, and cells. Short *et al*. at page 3 through page 5; Claims 4-7; 11-12; 15-16; teach the surface comprising volatile acid, volatile amine, volatile alcohol, and volatile hydrocarbon, and the surface comprising a mixture of one or more compounds having functional groups with a hydrocarbon. Short *et al*. at page 1 teach heteropolysaccharide, including glycosaminoglycans, such as, hyaluronan, dermatan sulfate, chondroitin sulfate, heparin, heparan sulphate and keratan sulphate, and homopolysaccharide.

As to recitation "a salt concentration of about 100 mM NaCl to about 2 M NaCl," Short *et al*. at page 16 teach use of standard ELISA methods to wash the unbound heparin from the allylamine coated microtiter plates. According to MPEP 2131.01, extra references can be used to show the meaning of a term used in the primary reference. **Dako** General ELISA Procedure, February 2002 indicates that 0.15 M and 0.5 M NaCl concentrations are used in the standard coating and washing buffers for ELISA methods. A specific example in the prior art which is within a claimed range anticipates the range. MPEP 2131.01.

"[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if *one* of them is in the prior art." Titanium Metals Corp. v. Banner, 778

F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing In re Petering, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)) (emphasis in original).

Therefore, each and every element of the claims are met by the Short *et al*. reference.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-16 and 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Short & Whittle**, WO 01/031339, published on May 3, 2001 (IDS entered 01/30/2008) as evidenced by **WO 98/19161,** to which Short & Whittle refer to at page 3, lines 12-15, and **Sigma** Catalog, 2000-2001, page 337, in view of **Marchant**, WO 94/10938 and **Schwarz** *et al*. Glycobiology, 2003, vol. 13, No. 11, p. 749-754.

The claims, as recited in the sole independent Claim 1, are drawn to a method for the selective disassociation of at least one biological entity from a plasma polymerized surface of an organic monomer including an allylamine, said method comprising contacting said surface with at least one agent having a salt concentration of about 100 mM NaCl to about 2 M NaCl, wherein said agent provides for selective disassociation of said entity from said plasma polymerized surface. Claims 28-31 recite

the variable ranges within the claimed range of the salt concentration of Claim 1. Claims 2-7 and 26 require the biological entity to be a carbohydrate. Claim 8 requires the biological entity to be a polypeptide. Claims 9-10 and 27 require the biological entity to be a nucleic acid molecule. Claims 12 and 13 require the surface to comprise a plasma polymer of a volatile acid. Claim 14 requires the surface to comprise a plasma polymer of a volatile alcohol. Claim 15 requires the surface to comprise a plasma polymer of a volatile amine. Claim 16 requires the surface to comprise a mixture of volatile acid and volatile hydrocarbon.

Short & Whittle, throughout the publication, and, for example, at page 5, line 1; page 8, lines 1-4; page 7, lines 10-14 and 16-17; Claims 8, 11, 13-15, 25; teach how to make and use a plasma polymerized surface of an organic monomer, including an allylamine, for detection of polypeptides, nucleic acids, including DNA and RNA, and cells. Short & Whittle, at page 4, line 21 through page 5, line 6; Claims 16-24; teach the surface comprising volatile acid, volatile amine, volatile alcohol, and volatile hydrocarbon, and the surface comprising a mixture of one or more compounds having functional groups with a hydrocarbon. At page 12, Short & Whittle teach an enzyme linked immunosorbent assay (ELISA) for estimating the binding of human immunoglobulin G (IgG) onto the different plasma copolymer surfaces. Short & Whittle teach washing the surfaces with PBS-Tween (page 12, lines 14-15). **WO 98/19161**, to which Short & Whittle refer to at page 3, lines 12-15, indicates that 0.15 M and 0.5 M NaCl concentrations are used in the standard coating and washing buffers for ELISA methods for ELISA methods. See, for example, page 19, line 32; page 22, line 6. In

addition, **Sigma** Catalog, 2000-2001, page 337 indicates that 0.137 M - 0.138 M NaCl concentrations are used in the standard PBS buffer for immunoassays.

Short & Whittle do not teach using a salt concentration of about 100 mM NaCl to about 2 M NaCl and the biological entity to be a carbohydrate.

Marchant, throughout the publication, and, for example, at page 5, line 20 through page 6, line 11; Abstract, teaches a method of modification of the surface of a substrate, such as polyethylene, by plasma polymerizing polar organic monomers, such as N-vinyl-2-pyrrolidone or allyl alcohol, onto the surface of the substrate to provide a film of a plasma generated polymer on the surface. At page 19, lines 5-6, Marchant teaches an attachment of high-affinity heparin onto polyethylene samples surface-modified by plasma polymerization. At page 14, lines 23-35, Marchant teaches that 3 M NaCl linear salt gradient elution of increasing ionic strength was used for column separation of three different heparin fractions with different affinity for antithrombin III: non-adsorbed heparin, low affinity heparin and high-affinity heparin.

Schwarz *et al*. teach a carbohydrate array for specific binding glycan-binding proteins. At page 753, Schwarz *et al*. teach washing the glycan array with high-salt buffer PBS-Tween, supplemented with 2 M NaCl.

It would have been *prima facie* obvious, at the time the invention was made, for one of ordinary skill in the art to select a salt concentration of about 100 mM NaCl to about 2 M NaCl from the 3 M NaCl linear salt gradient, taught by Marchant, the 2 M NaCl glycan array washing buffer, taught by Schwarz *et al*., and the 0.137 M - 0.138 M NaCl; 0.15 M and 0.5 M NaCl standard coating and washing buffers for ELISA methods,

for the selective disassociation of a carbohydrate from a plasma polymerized surface taught by Short & Whittle. Here, the skilled artisan could have arrived at the claim through routine experimentation on the optimum or workable ranges of the claim.

One of ordinary skill in the art, at the time the invention was made, would have been motivated to use a salt concentration of about 100 mM NaCl to about 2 M NaCl for the selective disassociation of a biological entity, wherein said entity may be a carbohydrate, because it would be desirable, to re-use the plasma polymerized surface, taught by Short & Whittle, or use it, for example, for investigation of ionic strength of carbohydrate-protein interactions.

One of ordinary skill in the art, at the time the invention was made, would have had a reasonable expectation of success for doing so because NaCl is routinely used in the standard PBS buffers for immunoassays. In addition, as taught by Marchant, use of the 3 M NaCl linear salt gradient elution of increasing ionic strength provides selective separation of carbohydrates, such as heparin polysaccarides.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated

by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-16 and 26-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1, 3-25, and 33-38 of copending Application No. 10/533,063 (the '**063** application), PGPUB 20060251693 in view of **Schwarz** *et al*. Glycobiology, 2003, vol. 13, No. 11, p. 749-754, and **Sigma** Catalog, 2000-2001, page 337.

The '**063** application claims a method to immobilize at least one type of carbohydrate molecule comprising the steps of: i) providing a monomer source comprising one or more organic compounds which are capable of polymerization; ii) creating a plasma of said monomer source; iii) contacting a surface with said plasma to

provide a plasma polymer coated surface; iv) contacting said **plasma polymer coated surface** with at least one type of biologically active **carbohydrate** molecule in its native form, wherein the plasma polymer coated surface is not modified prior to contacting with said carbohydrate molecule in its native form; and v) incubating said plasma polymer coated surface with said carbohydrate molecule in its native form, whereby the carbohydrate molecule is passively adsorbed, in the absence of albumin or salts, on the surface and thereby immobilized, such that the carbohydrate molecule remains in its native form, is not contaminated and retains its biological activity.

Schwarz *et al*. teach a carbohydrate array for specific binding glycan-binding proteins. At page 753, Schwarz *et al*. teach washing the glycan array with high-salt buffer PBS-Tween, supplemented with 2 M NaCl.

Sigma Catalog, 2000-2001, page 337 indicates that 0.137 M - 0.138 M NaCl concentrations are used in the standard PBS buffer for immunoassays.

It would have been *prima facie* obvious, at the time the invention was made, for one of ordinary skill in the art to use a salt concentration of about 100 mM NaCl to about 2 M NaCl for selective dissociation of at least one biologically active carbohydrate molecule immobilized onto a binding surface by the method taught by the '**210** application.

Claims 1-16 and 26-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 85, 87, 90-94, 96, 102, 103, 108, 109, and 112-123 of copending Application No. 10/560,210 (the '**210**

application), PGPUB 20060252046 in view of **Schwarz** *et al*. Glycobiology, 2003, vol. 13, No. 11, p. 749-754, and **Sigma** Catalog, 2000-2001, page 337.

The '**210** application claims a method for preparing a heterogenous binding surface on a substrate comprising: depositing **a plasma polymer on the substrate** using at least one **organic compound monomer** as a source of plasma, wherein the monomer is polymerisable, the monomer comprises an alkene containing up to 20 carbon atoms and the monomer has a vapor pressure of at least $6.6x10^2$ mbar; and coating at least part of the plasma polymer deposit with **a binding entity** which comprises a carboxyl or an amine functional group, wherein the binding entity is selected from the group consisting of **cells**, metabolites, pharmaceutically active agents, proteins including hormones, antibodies, enzyme, receptor, macromolecules including **DNA, RNA, protein** fragments, peptides, polypeptides, ligands, proteoglycans, **carbohydrates**, nucleotides, oligonucleotides, toxic reagents and chemical species and wherein the organic compound monomer is selected from the group consisting of N-vinyl pyrrolidone, allyl alcohol, acrylic acid, octa-l,7-diene, **allyl amine**, perfluorohexane, tetraethyleneglycol monoallyl ether and hexamethyl disiloxane. (Emphasis added).

Schwarz *et al*. teach a carbohydrate array for specific binding glycan-binding proteins. At page 753, Schwarz *et al*. teach washing the glycan array with high-salt buffer PBS-Tween, supplemented with 2 M NaCl.

Sigma Catalog, 2000-2001, page 337 indicates that 0.137 M - 0.138 M NaCl concentrations are used in the standard PBS buffer for immunoassays.

It would have been *prima facie* obvious, at the time the invention was made, for one of ordinary skill in the art to use a salt concentration of about 100 mM NaCl to about 2 M NaCl for selective dissociation of at least one biological entity from a binding surface prepared by the method taught by the '**210** application.

Claims 1-16 and 26-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 41, 47-50, and 54 of copending Application No. 10/509,431 (the '**431** application), PGPUB 20060166183 in view of **Marchant**, WO 94/10938; **Schwarz** *et al*. Glycobiology, 2003, vol. 13, No. 11, p. 749-754; and **Sigma** Catalog, 2000-2001, page 337.

The '**431** application claims a method for preparing a **plasma polymerized surface** on a substrate comprising: depositing a plasma polymer on the substrate using at least one **organic compound monomer** as a source to produce a plasma which is emitted from a plasma source and from which the plasma polymer is deposited; and moving at least one of: (i) the plasma source, and (ii) the substrate, relative to one another during plasma deposition such that at least part of the substrate has a plasma polymer deposit that is non-uniform, wherein the substrate is separated from the plasma source by a mask plate having at least one aperture that defines features of the deposited plasma polymer surface, the mask plate being spaced from the substrate wherein the organic compound monomer is selected from the group consisting of allyl alcohol, acrylic acid, octa-l,7,-diene, **allyl amine**, perfluorohexane, tetraethyleneglycol monoalkyl ether or hexamethyldisiloxane. (Emphasis added).

Marchant, throughout the publication, and, for example, at page 5, line 20 through page 6, line 11; Abstract, teaches a method of modification of the surface of a substrate, such as polyethylene, by plasma polymerizing polar organic monomers, such as N-vinyl-2-pyrrolidone or allyl alcohol, onto the surface of the substrate to provide a film of a plasma generated polymer on the surface. At page 19, lines 5-6, Marchant teaches an attachment of high-affinity heparin onto polyethylene samples surface-modified by plasma polymerization. At page 14, lines 23-35, Marchant teaches that 3 M NaCl linear salt gradient elution of increasing ionic strength was used for column separation of three different heparin fractions with different affinity for antithrombin III: non-adsorbed heparin, low affinity heparin and high-affinity heparin.

Schwarz *et al*. teach a carbohydrate array for specific binding glycan-binding proteins. At page 753, Schwarz *et al*. teach washing the glycan array with high-salt buffer PBS-Tween, supplemented with 2 M NaCl.

Sigma Catalog, 2000-2001, page 337 indicates that 0.137 M - 0.138 M NaCl concentrations are used in the standard PBS buffer for immunoassays.

It would have been *prima facie* obvious, at the time the invention was made, for one of ordinary skill in the art to use a salt concentration of about 100 mM NaCl to about 2 M NaCl for selective dissociation of at least one biological entity from a binding surface prepared by the method taught by the '**413** application.

This is a provisional obviousness-type double patenting rejection.

Conclusion

Claims 1-16 and 26-31 are rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALINA YAKOVLEVA whose telephone number is (571)270-3282. The examiner can normally be reached on Monday-Friday 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Shibuya can be reached on (571)272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. Y./
Examiner, Art Unit 1641

/Mark L. Shibuya/
Supervisory Patent Examiner, Art Unit 1641